

CLAIMS

1. A columnar honeycomb structural body comprising a large number of through holes placed in parallel with one another in a length direction with a wall portion interposed therebetween, wherein:
each of said through holes has one of ends sealed;
one end face of the through hole differs in opening area from the other end face thereof;
a ceramic material which constitutes said wall portion has an average pore diameter in a range from 5 to 30 μm ; and
the rate of capacity of micro pores each having a pore diameter two or more times larger than said average pore diameter is set to 30% or less of the capacity of the entire micro pores.
2. The honeycomb structural body according to claim 1, wherein
the opening area on a gas inlet side is made larger than the opening area on a gas outlet side.
3. The honeycomb structural body according to claim 1 or 2, comprising a partition wall for separating through holes on the gas inlet side from one another.
4. The honeycomb structural body according to any one of claims 1 to 3, wherein
the ceramic material which constitutes said partition wall has a porosity in a range from 30 to 70%.
5. The honeycomb structural body according to any one of claims 1 to 4, wherein
the through hole on a cross-section perpendicular to the length direction has a density in a range from 15.5 to 62.0 pcs/cm².

6. The honeycomb structural body according to any one of claims
1 to 5,
 wherein
5 a main material is silicon carbide.
7. The honeycomb structural body according to any one of claims
1 to 6,
 wherein
10 said wall portion has a thickness in a range from 0.1 to
0.5 mm.
8. The honeycomb structural body according to any one of claims
1 to 7,
15 which is applied to an exhaust gas purifying device for
a vehicle.